

Ritual, Hierarchy, and Change in Foraging Societies

MARK ALDENDERFER

Department of Anthropology, University of California, Santa Barbara, California 93106

Received June 18, 1991

While there is widespread belief that ritual has a role to play in the emergence of cultural complexity in foraging societies, there has been virtually no sustained attempt to demonstrate its place in this process of cultural change. In part, this is due to the paucity of reliably identified "ritual" features, artifacts, and structures recovered from the archaeological record. A more important problem, however, is that most theoretical thinking by archaeologists on ritual has disconnected it from its broader social context. Ritual can act as an agent of both stability and change, and can be used to justify both the existence and extension of hierarchies and inequalities in so-called "egalitarian" societies. In this paper, the role of ritual as agent of change is explored using dual inheritance theory, and the implications of the model are discussed. © 1993 Academic Press, Inc.

Within the context of foraging societies, change in the structure and intensity of ritual activity has been seen by some authors as a consequence of the sedentarization process (Prince and Brown 1985:9), a causative factor in the emergence of cultural complexity as one means of providing a basis or foundation for social differentiation (Lourandos 1985: 407), a means by which scalar stress can be reduced (Johnson 1982; Ames 1985:161), an ecological buffer that serves to regularize or formalize reciprocal social relations (Cohen 1985:105), and as a communicator of social position simultaneously serving as its justification (Conkey 1985: 319). Beyond this nearly universal recognition of the potential importance of ritual, however, there has been relatively little theoretical thinking on how to *situate* the role of ritual in the transformation of foraging societies. A more specific way in which to frame this question is to ask whether change in ritual practice is causal or consequent to the emergence of social complexity, such as the formation of hierarchies, inequality, and social differentiation.

The circumstances under and degree to which ritual is causal or consequent vary, as might be expected, on different theoretical orientations. Bloch (1977:289), from a Marxist perspective, argues that ritual legitimizes social inequality and is thus a mechanism by which hierarchy can be developed (Conkey 1985:304). Rappaport (1979:125), from a position

firmly grounded in ecological anthropology and neoevolutionary thinking in general, has proposed that "wholeness, holiness, and adaptiveness are closely related," and attempts to demonstrate that ritual is the primary means a society utilizes to maintain itself in some sort of homeostasis with its environment. Echoing this view, Paynter (1989:374-375), in something of a caricature, has argued that most neoevolutionary thought in archaeology has viewed ritual and the appearance of "complexity" in general as emergent properties of society that are designed to solve problems, alleviate stresses, and generally promote adaptation. Ritual has even been given a place, albeit a reactive, post hoc one, in neo-Darwinian theories of cultural transmission, wherein ritual (labeled as "magio-religious trappings") serves to reinforce lessons learned by individuals about changes in economy and rules about reproduction (Bettinger 1991:207).

Regardless of theoretical orientation, however, we are still lacking an effective way to link ritual to other, dynamic factors thought to be of importance in the process of social change in foraging societies, specifically the appearance, maintenance, and extension of hierarchies and various forms of social inequality. To effect a resolution of this problem, and to situate ritual, we must at a minimum discuss the following concepts: what we as anthropologists know about ritual and ritual performance, our understanding of the sources and types of hierarchy and inequality in egalitarian societies, and finally, models and theories that show how ritual can be integrated with the formation of hierarchies, and how these in turn and together act as agents for social change and transformation. For theory, I turn primarily to dual inheritance theory developed by Boyd and Richerson (1985) and its neo-Darwinian analogs. Both of these orientations offer a materialist interpretation of the role of ritual that is particularly appealing, especially when compared to a number of alternative positions that have been developed to examine similar questions (e.g., Hodder 1988).

Consequently, this paper consists of the following: a brief review of the salient features of dual inheritance thinking, a discussion of ritual and hierarchy in egalitarian societies, the development of a model that integrates the two, and finally, a discussion of some of the implications of the model. Although some aspects of this theoretical approach may be applicable to other cultural contexts, it is necessary to fix the limits within which the predictions of the model operate: small-scale foraging societies undergoing the process of sedentarization, small-scale groups recently sedentary, and more complex foraging societies in which hierarchy has not yet become institutionalized.

DUAL INHERITANCE THEORY

The development of dual inheritance theories of cultural evolution,

especially that offered by Boyd and Richerson (1985), offers new ways in which to think about the theoretical basis for belief and the ways in which ritual can be manipulated to justify and extend hierarchies. Although it is beyond the scope of this paper to describe thoroughly this newly emerging theory (see Bettinger 1991 for such a description), dual transmission theory combines the best of what we know of biological and cultural evolution into a synthesis with considerable explanatory potential. It recognizes a fundamental distinction between genetic and cultural modes of transmission of information, and while utilizing much of neo-Darwinian thought as derived from sociobiology, it integrates it with a parallel, concurrent process of culturally based learning that itself in part is genetically mediated. The result is a theory with predictive power that can be used to explain a wide variety of phenomena such as the origins of symbolic systems, stylistic variation, and cooperation. Much of the following discussion is based upon Boyd and Richerson (1985:1-18).

Dual inheritance theory is based on a number of concepts, but three of the most important are the following. Unlike biological transmission, an individual may have more than two "cultural parents." That is, this theory recognizes that there are a multiplicity of sources of information about culture, and that a variety of these sources are potentially influential in the development of the individual. Given this, cultural transmission can be both "horizontal" and vertical. Biological transmission, of course, is vertical in that the parental generation provides all of the genetic information its offspring will ever acquire. While cultural transmission is obviously vertical, in that offspring learn from their parents or from other individuals in the parental generation, they also learn from their peers (thus the horizontal dimension) or even from those younger than they. Finally, cultural information is learned, and it can be passed on to both biological and cultural offspring. Cultural transmission, therefore, is "Lamarckian," in that what is learned during the course of a lifetime can be passed on to others.

Like biological transmission, cultural transmission or inheritance is conditioned by and responds to the environment, and thus we speak of forces that are generated by this interaction. In addition to simple random variation in the content of culture generated by error and an analog of genetic drift, the three most important forces are guided variation, biased transmission, and natural selection. Guided variation is essentially learning through a number of mechanisms that include trial-and-error testing, direct experience, rational evaluation, and other, similar means by which individuals evaluate their experience or variation in the environment and change, modify, or maintain their behaviors. Boyd and Richerson are careful to note that criteria external to the learning process itself must be used as adaptive standards. One example of these standards is the socio-

biological argument that individuals make decisions to maximize their inclusive fitness. In this instance, guided variation comes into play as the individual weighs various options involving some situation about fitness and ultimately makes choices that are decided by what the individual has learned through life.

Biased transmission, while still a learning process, is more complex than guided variation, and has three main variants. The first is direct bias, in which an individual adopts some cultural variant based on direct knowledge of the variant itself. A simple example involves the choice of hunting strategy; a hunter adopts an encounter strategy as opposed to a collective, drive strategy based on personal experience and direct knowledge of the strengths and weaknesses of each. Frequency-dependent bias, in contrast, does not require that the individual have direct experience with some cultural variant for its adoption, and instead assumes that the trait will or will not be adopted based upon its commonness or rarity within the group. Obviously, common variants will have a higher probability of being adopted than rare ones. Finally, indirect bias is a form of learning in which cultural traits are adopted because they are perceived to be attractive on some basis, usually prestige, status, power, and wealth. In choosing an attractive trait, these individuals often adopt wholesale other traits related to the attractive feature. This process usually involves no direct experience or even clear knowledge of the cultural variants being selected; in fact, they are selected primarily on the basis of their perceived appeal. Boyd and Richerson (1985:287-288) suggest that in a spatially variable environment, indirect bias as a learning tool is likely to be the most powerful influence on the course of cultural inheritance or transmission, and further is likely to be a very inexpensive way in which to discover an adaptive cultural variant.

Finally, natural selection itself can operate directly on culture. Clearly, some cultural variants or choices enhance the individual's survival within a particular environmental context, and it is obvious that these variants, through time, can become fixed within a group. Boyd and Richerson (1985:11) argue, however, that they can conceive of situations in which natural selection operating on cultural variation may well lead to behaviors that are contrary to an individual's genetic fitness. That is, selection may favor behaviors that enhance the "cultural," rather than biological fitness, of the individual.

The theory is very rich and has a very wide potential field of application, but of greatest interest to this paper are three of its major implications: learning through direct experience is very expensive, and therefore, cultural inheritance is a less costly way in which to obtain information about how to behave. That is, "if the locally adaptive behavior is more common than other behaviors, imitation provides an inexpensive way to

acquire it" (Boyd and Richerson 1985:15). In effect, this finding provides a basis for belief in the effects of ritual or cooperation with it in relatively stable environmental contexts with little cultural variability, such as is characteristic of many foraging societies. I explore this more fully below.

A second finding is that dual inheritance theory provides a clear theoretical basis for the evolution of group selection. Modern sociobiology, of course, is based upon the principle that individuals behave so as to maximize their reproductive success, although they may not consciously do so. Individual success is frequently at the expense of that of other, unrelated or more distantly related individuals. The problem for this theoretical orientation is to predict under what circumstances cooperation between genetically unrelated individuals, an obvious hallmark of human social institutions, would evolve. Extensions of neo-Darwinian thought, such as kin selection and inclusive fitness (Hamilton 1964) and reciprocal altruism (Trivers 1971), offer partial solutions to the problem. Each of these, with varying degrees of emphasis, suggest that in small groups of mostly related individuals, people may make choices that appear to run contrary to the maximization of individual reproductive success if in fact the decisions will aid close kin in their own reproductive or economic activities. Empirical support for this in human societies is abundant (Chagnon 1979b; Berte 1988; Betzig 1988), although not without controversy (see Bettinger 1991:170-173).

In larger groups made up of unrelated or very distantly related individuals, however, kin selection and reciprocal altruism cannot be easily used to explain cooperation, and to understand it in this context, we must turn to the concept of group selection. Although highly controversial, especially since its empirical support is very limited (Boyd and Richerson 1985:240), the idea of group selection is intuitively appealing. Cultural materialism and contemporary archaeology, especially neoevolutionism (see, for example Dunnell 1980:60-66), use generally poorly defined notions of "natural selection" that operate at the level of the group. The problem, of course, is that it has been exceedingly difficult to identify the locus of selection at the group level (i.e., which and how many groups are acted upon by selection in multigroup societies) and to reconcile what is known of how selection operates at the individual level with any supposed supraindividual level of selection.

As defined by Boyd and Richerson (1985:230), "Group selection occurs whenever the fitness of an individual depends on the behaviors of other individuals in a local group." From a strictly neo-Darwinian perspective, the evolution of cooperation between unrelated individuals is highly unlikely, since cooperators have a lower fitness than egoists who choose not to cooperate. In effect, egoists take advantage for their individual benefit of cooperators, and exploit their ability and willingness to cooperate.

Over the long run, selection would favor the noncooperators, and these individuals would dominate cultural and genetic variation in the group. What conditions, then, would increase cooperators in a group, and thus fix that version of cultural variation? Boyd and Richerson (1985:205–223) define what they call conformist transmission—a learning process in which individuals acquire the most commonly available variant of cultural knowledge available to them. As they note, it is a specific form of frequency-dependent bias, and it has two distinct advantages in spatially heterogeneous (in both the social and physical senses) environments:

it improves the chances of acquiring the locally favored cultural variant, and . . . it increases the amount of cultural variation among groups relative to the amount of cultural variation within groups. This in turn can cause selection between groups to favor cultural variants which enhance the success of the group at the expense of the individual. (Boyd and Richerson 1985:206)

If such advantages can be established, it is clear that a group so constituted would be at some competitive advantage against some other group that could not in fact cooperate as effectively. It should be obvious that societies that are able to mobilize ritual toward group ends may well have some competitive advantage, and further, such advantage provides a powerful incentive for cooperation and belief in the power of ritual.

Finally, the third major finding is that the forces that direct cultural transmission and inheritance may lead to the development of behaviors that contradict and are “maladaptive” from the perspective of genetic inheritance, including the tenet of the maximization of inclusive fitness. The related concepts of indirect bias and the runaway process offer some insight into how this may occur (Boyd and Richerson 1985:259–279; Bettinger 1991:196–198). As described above, indirect bias is a form of learning in which individuals attempt to emulate, insofar as it is possible, the behaviors and traits of successful or prestigious individuals by choosing blocks of traits to copy. Depending on the suite of traits chosen for emulation (indicator traits) and the degree to which these indicator traits are actually correlated to behaviors that enhance fitness, it is clear that indirect bias is a relatively cheap means of obtaining complex information and possibly enhancing fitness (Bettinger 1991:197). Indirect bias leads to two potentially important effects: traits are transferred from individuals to emulators in blocks, and in addition, the traits generally emulated can become rapidly exaggerated through time through a positive feedback process. That traits are selected in blocks is extremely important; because of the known complexity of culture, it is possible that the indicator trait most frequently chosen for emulation is *not* directly related to fitness.

As Boyd and Richerson (1985:268) show, depending on just what traits have been selected for emulation and the degree to which that set of traits

is related to the maximization of fitness, there are three outcomes of the effects of indirect bias on cultural transmission: (1) the traits selected are in fact adaptive, and are thus fixed as cultural variants within the population; (2) the traits are adaptively neutral, and thus are subject to "drift"; and (3) the indicator traits selected are actually maladaptive, which may lead to the runaway process. The runaway process may lead to "behaviors in which the indicators of prestige become exaggerated far beyond levels that would be appropriate were genetic fitness alone involved" (Bettinger 1991:201). As I show below, it is possible that the runaway process may affect the degree to which ritual is in fact an adaptive choice to solve some problem, especially in contexts of rapid social and environmental change.

RITUAL

Like all concepts of importance, ritual carries its own intellectual baggage, and there is currently sharp debate among anthropologists regarding how ritual should be conceptualized and how its place in society described. Writing on this debate, Wagner (1984:146) notes that how one views ritual is a "matter of theoretical assumption and expectation." Thus, Turner (1969, 1986) describes ritual from an interpretive or symbolic perspective and is concerned more with the performance and conveyance of transcendent ideas embodied by the ritual act itself. From this perspective, ritual cannot be reduced to other social principles.

There has been a longer tradition, however, of viewing ritual, especially that in a sacred context (Wallace 1966), in an essentially functional perspective, one which emphasizes its role as a mechanism for social control, a means by which social conflicts are resolved, a device to maintain social solidarity and stratification, and generally, to promote adaptation and societal homeostasis (Burns and Laughlin 1979:250-251). Ritual is here seen as "conveyed regulation" (Wagner 1984:144), in which ritual becomes a means of communicating and justifying the existence of social forms and relations. Ritual, as a means of social communication and at least in part of social justification, can be a traditionalizing force. It mediates existing social relations as they are categorized by the participants in the event. Douglas (1973:79), in describing her approach to understanding ritual, has argued "The restricted code (ritual) is used economically to convey information and to sustain a *particular social form*. It is a system of control as well as a system of communication" (emphasis mine).

It is important, however, not to overemphasize the role of ritual as a means of generating social solidarity and consensus. Societies are not organisms, and this sort of purely functionalist thinking has been largely discredited in modern anthropological thought, especially from the per-

spective of those theories, such as agency critiques which demonstrate that society is composed of individuals that are members of shifting and often contradictory, competing segments (Giddens 1984), or from neo-Darwinian thought, which emphasizes how individuals make choices that maximize their inclusive fitness often at the expense of the group (Boyd and Richerson 1985). Indeed, if we view ritual solely as a control device, it becomes extremely difficult to place ritual in more than simply a reactive position, and it thus remains only a traditionalizing or conservative force. For the archaeologist, then, ritual must remain consequent to the dynamics of other social processes that promote hierarchy and inequality.

To place ritual in a dynamic framework, one in which it can serve as a causal factor in the process of social elaboration, it is necessary to build a theoretical bridge between the obvious control functions of ritual with its potential for as a change agent. If we grant that all societies maintain some form of ritual communication that at least in part is a means of justifying existing social relations, we can further postulate that ritual will be effective in the mediation of these social relationships and the maintenance of existing social categories *as long as most participants in the ritual process continue to get what they consider to be their appropriate benefits and have a reasonable expectation of continuing to do so.* That is, individuals agree to "cooperate" with the ritual process through a belief in either the power of ritual as a sanctioning or persuasive force (Burns and Laughlin 1979:271–275). In the former, individuals participate in the ritual system through a belief either in some reward for behavior consistent with the ritual process or in fear of sanction (punishment) if the constraints of the ritual process are violated. In the latter, however, individuals cooperate with ritual because their beliefs are strongly molded and manipulated by a wielder of ritual power. Thus, it is not reward or fear that leads to cooperative behavior, but instead a process of manipulation in which a context for cooperation is carefully managed. As Burns and Laughlin (1979:274) note, the power of persuasion is particularly important when the context of ritual performance is related to the possibility of collective action on the part of the participants.

HIERARCHY AND INEQUALITY

All known human societies have some form of social inequality, even those labeled by the ethnographic literature as "egalitarian." Flanagan (1989), in reviewing the massive literature on hierarchy in simple societies, has persuasively demonstrated what we as a discipline have long known but have tended to overlook—that hierarchies based on age, gender, kinship, generation, reproductive success, and ability characterize all so-called simple societies. We have made this omission through classifi-

cations, especially those that focus on defining "types" of societies based on structural principles. However, it has become increasingly clear that hierarchy and inequality in so-called simple societies are frequently context-specific, based more on social organization, situation, and practice than upon fundamental *structural* categories of society (Flanagan 1989: 261–262), and therefore, the attempt to characterize whole social systems as being either "egalitarian" or "unequal" is inappropriate. It is important to stress that in so listing potential sources of hierarchy, this does not imply that any one of them is necessarily the prime mover of the origins of societal complexity. Likewise, it should be obvious that a commitment to some form of pristine "primitive communism" or a "pure" form of egalitarian society is an ideological statement that eschews empirical observation and verification (cf. Flanagan 1989:249–251 for an extended discussion of this issue).

Hierarchy, according to Flanagan (1989:248), refers to the existence of inequalities between persons, and pertains more to social organization than social structure. Under this definition, it is obvious that while hierarchy can exist within stratified societies (those so defined by social formations such as classes or "elites"), societies need not be stratified in order for hierarchy to exist. *Inequality* is a clear difference in access to some commodity, position, or resource. Some individuals have access to the resource while others do not. It is important to here stress that it is not necessary to identify this resource as a subsistence or other economically valuable good. As Paynter (1989:383) points out, this "resource" may be control of force, access to strategic food resources, trade goods, women, knowledge, competency, legitimacy, and prestige. It is this range of possibilities that leads to the situational and contextual nature of hierarchy. It also follows from this perspective that hierarchy and inequality are culturally defined and valued, and thus, there is no *universally* valid common denominator of hierarchy applicable to all societies (Flanagan 1989: 252–253). The careful study of material culture and context is thus paramount in the identification in the archaeological record of this definition of hierarchy and inequality.

But what is of primary interest to the archaeologist, however, is not simply that hierarchy or inequality exist in so-called simple societies, but instead the ways in which hierarchy becomes *institutionalized* inequality—that is, how does social organization and interaction become social structure. In other words, what pathways exist that permit some segment of society to take control, or monopolize, access to some critical or strategic resource? (Paynter 1989:383).

Johnson (1982), in his discussion of sequential hierarchies, posits a general model of the way in which hierarchy might be promoted into an institutionalized form. According to Johnson, a sequential hierarchy is a

form of inequality that tends to be of unstable membership, thus impermanent, and while it may dominate access to a single strategic resource, it does not control others. Thus, an individual atop a sequential hierarchy may control access to some resource important in trade, for instance, but does not control other aspects of the productive, economic, social, or religious sphere of society. In simultaneous hierarchies, however, this individual controls more than one hierarchy. Exactly how this is done remains speculative, but most explanations focus on the control of access to prestige goods (cf. Paynter 1989:382) or the need to improve the decision-making capabilities of society in the face of scalar stresses (Johnson 1982; Reynolds 1984).

In egalitarian societies, the control of multiple sequential hierarchies by a single individual is strongly resisted by others through a number of devices, notably leveling mechanisms, an emphasis on an ethos of sharing, prohibitions on food storage and self-aggrandizing behavior, and more (Lee 1990). While it is well known that these mechanisms are present in most simple societies, it is important not to overemphasize their power. Fundamentally, they are ideologies, and as such while a society might widely proclaim its egalitarian ethos, there may well be substantial differences in wealth, knowledge, or prestige among its members (Flanagan 1989:248). For the archaeologist, what this means is that we cannot simply assume that such ideologies were always effective in the past. If this were the case, it would be difficult to see how any movement to institutionalized inequality could be made. Therefore, it is not the mere fact of accumulation of wealth, prestige, or status (Hayden 1990) that is important, but the dynamic social context of that accumulation and the ways in which that context has been *transformed and justified*, and ultimately, is reproduced and allowed to persist in an institutional form.

RITUAL POWER, HIERARCHY, AND THE CONTEXT OF SOCIAL CHANGE

Based upon the discussion thus far about ritual, hierarchy, and inequality, we are now in a position to explore the role of ritual in the process of social change and elaboration. To do so, we must define the cultural contexts in which ritual is most likely to facilitate the extension of hierarchy. Using the definitions of hierarchy and inequality offered above, if we are concerned with the emergence of cultural complexity, only one of the three conditions proposed by Price and Brown (1985:8)—circumscription—is in fact necessary for complexity to emerge. The other two—resource abundance and large populations—are necessary conditions for the eventual *institutionalization* of hierarchy.

Circumscription

Why circumscription? Because it limits choice and mobility, both of which have been seen as hallmarks of small-scale, relatively egalitarian societies. Moving away from conflict, stress, and subordination is generally the most cost-effective and frequently observed means of dealing with these social problems in foraging societies (Betzig 1986:100–103). Circumscription was first invoked by Carneiro (1970) in his theory of the origins of state-level societies, and while it has been challenged and defended repeatedly (see Carneiro 1988), certain important aspects of the theory have been borrowed and translated for use in the setting of foraging societies.

As applied to simpler societies, circumscription is generally seen within a context of reduced residential mobility, and as Brown and Price (1985: 438) note, a reduction in mobility “appears early during the course toward increased complexity.” Most students of foraging peoples agree that as the ability to move from social and ecological problems decreases, existing institutions, roles, and other social entities are increasingly called into play to alleviate the attendant stresses, which include increasing levels of inter- and intragroup conflict and potential resource shortfalls. Note that the causes of reduced residential mobility may be many, including a local increase in population density due to resource concentration or overall larger populations on a regional scale (Brown 1985).

Circumscription may be broadly defined as “the net benefit, or relatively lower cost, of remaining in a group for any individual member” (Betzig 1986:102; Irons 1979). Consistent with dual inheritance theory prediction, individuals stay within the group as long as the net costs of group membership do not exceed the benefits. An important correlate of this prediction as Betzig (1986:101) points out is that individuals may tolerate increasing social inequality within groups because perceived benefits outweigh the costs of inequality, or to avoid some greater cost, such as the results of intra- and intergroup conflict or resource shortfall.

If circumscription is a necessary condition for emergent social complexity, then there are situations that exacerbate the social stresses it generates. These are highly dependent on local historical or environmental factors, and are thus contextual in nature, but importantly, their operation can be explained in theoretical terms, as is shown below. In some ways, they are best seen as proximate causes of the extension of hierarchy. Socially generated conditions include a rapidly changing social environment in which competition between roughly equivalent small-scale societies is intensified, culture contact situations in which a small-scale society is thrown into persistent and intensive contact with a larger, more complex society, and attempts by individuals atop demographically de-

fined sequential hierarchies, for example (see Chagnon 1979a), to control hierarchies defined on other bases. Externally or environmentally driven situations include substantial and persistent structural changes in resource abundance, availability, and predictability that occur over a relatively short time span, such as within a single human generation (Laughlin and d'Aquili 1979:308–309). It is important to note that this perspective is consistent with Keeley's (1988) observation about the emergence of complexity and degree of population pressure. As defined here, the social or ecological correlates of circumscription can increase population pressure without substantially increasing absolute population size. Population pressure, then, should be seen as a proxy measure of some form of circumscription that has a social or ecological basis.

A Theoretical Basis for Cooperation with and Transformation of Ritual Power

The idea of “cooperation” with ritual power has a theoretical underpinning derived from modern thinking in evolutionary biology on the nature of altruistic or cooperative behavior in human societies. For small-scale foraging societies, these models provide a basis for understanding why people cooperate. Regarding ritual, it should be clear that if individuals are related to a wielder of ritual power, they may well cooperate with ritual practice that runs contrary to immediate self-interest, but is nevertheless in the interest of a larger group of similarly related individuals. This prediction is based upon notions of kin selection and reciprocal altruism as described above. This approach also helps to explain why persuasion and consensus, rather than sanction, is a more common expression of ritual power in small-scale societies (see Turner 1969:94–97, and especially his discussion of the linked concepts of liminality and communitas, pp. 125–130). Boyd and Richerson (1985:229–230) convincingly demonstrate that at least for relatively small groups, it is never in the individual's rational self-interest to punish, but is always better to find someone else to do the punishing. Here, it is tempting, but not yet empirically supported, to argue that this line of thought provides a basis for the origins of supernatural sanctions—that is, punishment meted out not by peers but by nonhuman “others.” Those individuals that control and manipulate such sanctions, such as the feared shamans in many foraging societies, may not suffer the same negative consequences as those who more directly punish others, and may actually gain prestige, respect, and status, which have been observed to be proxy measures of fitness in many societies (Alexander 1988:326–329). A close analog of this process has been observed in the ethnographic record, particularly of southern California foragers such as the Gabrielino, Luiseño, and Chumash (see below).

In larger groups, the concept of group selection as defined in dual inheritance theory provides a similar basis for belief in ritual power. Ritual, especially in the way it communicates social relationships and serves to integrate diverse aspects of society, appears to be the group-level analog to reciprocal altruism and kin-based reciprocity in groups of related individuals. Boyd and Richerson (1985:276) argue that "the altruistic, group functional behavior of humans seems to be . . . commonly embedded in systems of supernatural sanctions and costly rituals." Ritual may well help to place a group in a more competitive position against potential rivals. Successful ritual, then, creates a body of conformists, thus creating a conformist tradition, that has a strong basis for belief in the efficacy of the existing ritual system. This in turn provides a more effective basis for group mobilization and collective action (Burns and Laughlin 1979:269–270). There are, however, conditions under which ritual and cooperation with it on the part of believers is not adaptive, and it is under these circumstances that ritual may be transformed by both wielders of ritual power and believers.

If we accept that hierarchies and thus inequalities naturally exist in small-scale, egalitarian societies, dual inheritance theory predicts that within the constraints of group selection individuals will compete for prestige and status (Boyd and Richerson 1985:240–241; Vining 1986; Alexander 1988:326–327), and this competition will be accepted or tolerated by other members of society *as long as mobility remains a viable option to mitigate the potential stresses of that competition*. In other words, people with power in the sense of hierarchy as defined in this paper will 'exploit that power for their own benefit (Betzig 1988:60; Alexander 1988: 326; Hayden and Gargett 1990:13). However, as mobility is constrained by some form of circumscription, stresses are created both internally and externally that can threaten both individual and group benefits. Ritual, as the locus of group or altruistic behaviors, and thus the individuals that control that hierarchy, may be increasingly called into question as existing ritual practice fails to predict or cope with new social conditions. Individuals once tolerant of prestige or status competition under mobile conditions may find their individual benefits obtained through belief and cooperation eroded. They may, for instance, experience increased demands for material support, in either goods or labor, of ceremonies at a time when subsistence production has been made more difficult through circumscription. As individuals find that their expected benefits from the ritual process do not materialize or especially that the costs of cooperation begin to exceed the benefits, this would lead to the emergence of cultural variants that either reject or seek to modify existing ritual practice. This in turn could foster conditions in which, especially under the rules of cultural transmission, a decrease in the differential between se-

lection for the group as opposed to the individual appears—that is, group-level selection is no longer protected from the effects of individual selection, which as I have shown above, tends to decrease the numbers of conformists and cooperators in a group. This situation poses three distinct, but related threats: the wielder of ritual power faces the possibility of loss of prestige and power, former cooperators face a loss of group-level benefits, and the erosion of the basis for collective action.

For the wielder of ritual power who stands in jeopardy of losing some degree of prestige, status, or power through the loss of control over ritual, it is clear that this circumstance would lead to attempts to transform ritual practice and belief. Douglas (1966:174–175) has remarked that religions and rituals protect themselves from skepticism and a failure to make changes in the exterior world by a number of mechanisms, including habitually identifying evil “outsiders” as the cause of failure of a ritual event, making a successful ritual outcome dependent on satisfying a set of almost impossible conditions for its performance, and most importantly for this argument, actually changing the content of teaching and ritual practice, primarily by emphasizing paradox and contradiction. Note that this perspective does not necessarily mean the maintenance of the status quo and therefore traditional or conservative forms of belief. Change in ritual practice on the part of both wielders of ritual power and believers could in fact be dramatic, involving a break with existent traditions and the creation of new ones. As I show below, so-called “nativistic” or revitalization movements (Wallace 1966:209) are excellent examples of how ritual can be manipulated as an agent for dramatic, and frequently catastrophic, social change.

Such conditions may also lead to the emergence of competing forms of ritual power—essentially new hierarchies—that compete directly with traditional forms of ritual practice. Such a situation occurred in a number of northern California foraging groups such as the Miwok and Nomlaki with the 1870 Ghost Dance (Bean and Vane 1978:670). In traditional society, ritual power was vested in the lineage head and shaman (Levy 1978:410–412). The Ghost Dance created a new wielder of ritual power—the Dreamer—who obtained his or her supernatural power from dreams and visions derived from the ideology of the Ghost Dance. The Dreamer competed with traditional ritual figures through attempts to broaden the basis of the sacred order by specifically including women and men who had been excluded from ritual practice in the traditional belief system (Cora Du Bois 1939; Gayton 1930b). Under these circumstances, it is clear that the possibility of competition for power and prestige would be a powerful incentive for the traditional wielder of ritual power to find a transformation of ritual practice acceptable to others in society.

For the former cooperator, this situation can be seen as a variant of a classic cost-benefit problem more commonly observed in economic contexts. Cooperators essentially must calculate the costs and benefits of continuing to cooperate with a possibly radically changed ritual practice and thus maintaining to some degree group-level benefits, which appear to be the most obvious ones obtained through belief. The calculus of the decision process is influenced by the persuasive skills of the wielder of traditional ritual and his oratorical powers (Bloch 1975) and the existence of alternative forms of ritual practice and their social and economic costs. In a real sense, this decision for the cooperator appears to focus on the question of with which group to become affiliated. Although it is unlikely that a currency can be created to measure the costs and benefits in such a context, it is nevertheless clear that individuals necessarily go through this decision process.

Of greatest importance to this paper, however, is that the context of change under conditions of circumscription also offers those in control of a ritually defined hierarchy an opportunity to extend the range or their power—in other words, to attempt to control other sequential hierarchies. Ritual, since it can control in part the definition of social categories, is an ideal means of literally redefining social relationships. If wielders of ritual power are in fact successful in convincing individuals to continue their belief in the power of ritual, they may in fact also be able to convince them to allow the extension of ritual into other social fields. The degree to which this is possible, of course, depends on the degree to which individuals can be manipulated and persuaded that they can expect benefits from the changed ritual scheme, or decide, and, as argued above, that the costs of an extended hierarchy and increased inequality are less than the alternatives open to them.

Under conditions of rapidly changing social and ecological environments that result from circumscription, however, ritual can prove to be fragile. Rappaport (1968:234), an advocate of the adaptationist perspective on ritual practice, notes one of the disadvantages of Maring ritual regulation: "In a stable environment slow and inflexible regulation may not produce serious problems, but the novel circumstances that are continuously presented by rapidly changing environments may require more rapid and flexible regulation." While Rappaport is discussing the physical environment, it is obvious that this comment could be extended to a rapidly changing *social* environment. Echoing this view, Minc (1986:102) shows that ritual may not be able to respond flexibly to crisis situations since it has relatively high social costs and, frequently, rigid scheduling constraints. However, if neither the pace is too rapid nor the intensity is too severe, then ritual should in fact undergo some transformation. In-

deed, as Laughlin and d'Aquili (1979:297–299) argue, disaster so severe as to undermine ritual power and authority generally tends to “atomize” or fragment social groups, which often leads to the collapse of whole societies.

It should be clear, then, that the choices made by both wielders of ritual power and former cooperators may not be optimal, and in fact, they may well be maladaptive under rapidly changing social environments. It should be clear how ritual in specific, and symbolic behavior in general (Boyd and Richerson 1985:271–279), can be subject to the runaway process. As those who control ritually based hierarchies are seen to increase their prestige, indirect bias would provide a powerful incentive for belief. That is, emulators would attempt to copy those behaviors ritually sanctioned by the wielders of ritual power, further fixing these beliefs within the group while enhancing their own status as further advancing the prestige of those who control the ritually based hierarchy through positive feedback. Since believers may well have increased their own prestige, they may be more willing to allow the wielders of ritual power to control other hierarchies with the obvious expectation that they themselves may further benefit from the process. If the indicator traits selected for emulation (such as the ritually sanctioned beliefs) are in fact adaptive, then this process would necessarily enhance both individual and group fitness. If maladaptive, however, the process could quickly spiral out of control. Aspects of the 1890 Ghost Dance in North America (Mooney 1896), which included an emphasis on supernatural protection of combatants, dramatically demonstrate the power of the runaway process acting on ritual belief and knowledge.

EXAMPLES FROM ETHNOGRAPHY

To better illustrate how ritual is changed by individuals in response to persistent and intensive change in social and physical environments and in ways consistent with the general model developed in this paper, we must turn to ethnography for a series of examples that describes how societies undergoing some form of circumscription have seen their ritual practices modified and transformed, and ultimately, extended to control other sequential hierarchies. I illustrate the model with three examples, two of which deal primarily with foraging societies undergoing a process of circumscription: sedentarization and a number of Basarwa groups in Botswana, and the nativistic Midewiwin cult of Central Algonkian speakers, particularly the Chippewa, in the upper Great Lakes during the 17th and 18th centuries. A third example, the growth of the Chingichngish cult in late 18th and 19th centuries among the sedentary Gabrielino of southern California, provides a different perspective on how control of hierar-

chy of ritual power is extended and combined with the control of a wealth-and-status-based political hierarchy in these societies. Each of these examples uses a somewhat more "complex" group of foragers, with the Basarwa the simplest, the Chippewa intermediate, and the southern California groups the most complex.

Ritual, Individual Leadership, and Sedentarization among the Basarwa

Various groups of Basarwa peoples have been undergoing the sedentarization process in different parts of Namibia and Botswana for centuries. Two groups that have been studied extensively and which provide useful information that can be used to illustrate different aspects of the model are the Ghanzi (or Farm) Basarwa of western Botswana (Guenther 1975, 1976), and Nata River Basarwa of eastern Botswana (Hitchcock 1982). Before looking at these two groups, however, it is necessary to describe ritual practice under mobility. For this, I rely upon Katz's (1976) discussion of *!kia* healing and the role of indigenous trance dancers in !Kung society.

The *!kia* healing dance is the primary expression of ritual and religious belief in traditional !Kung society. Among its group level benefits are the amelioration of social tensions, the fostering of group solidarity, and the physical healing of ailing people (Katz 1976:286). In other words, it offers all of the benefits traditionally observed for ritual activity. *!Kia* healing, however, is also a form of altered consciousness and transcendent experience, and it thus provides individual benefits for those able to achieve *!kia* and to use it for the good of the group. *!Kia* healing is based upon the "activation of an energy which they (the !Kung) call *n/um*." (Katz 1976: 286). Possessing and then releasing *n/um* is the route of using *!kia* for healing. Anyone, both males and females, may possess *n/um*, and thus serve as a trance dancer. There is no monopoly of control over *n/um*, and indeed, the !Kung believe that the more people who possess *n/um* the better it is for society as a whole. As Katz (1976:298) puts it, *n/um* is an expandable substance. Katz estimates that roughly 50% of the adult males in !Kung society possess *n/um* and use it in *!kia* healing ceremonies. There are, however, recognized *!kia* masters who are seen as more powerful or efficacious in their use of *n/um* (Katz 1976:288). While masters may be more likely to train or encourage other individuals to possess *n/um*, they are accorded no special benefits beyond the prestige associated with being a *n/um* master.

The Ghanzi Basarwa have maintained a modified form of residential mobility at least through most of the 20th century (Guenther 1976:125). Their economy is focused on providing farm labor for Europeans, in which they obtain wages and staples. They supplement this with some

traditional subsistence practice which tends to be sporadic and opportunistic, and also have their own goats and donkeys. Ghanzi Basarwa maintain their residences, generally composed of clusters of kin, at the tolerance of the European farmers. Only those who actually are employed, however, have a "right" to live on the farm, and others present are viewed by the Europeans as squatters, who can be dispossessed. There is a constant tension, then, between remaining at a farmstead, and moving into the bush either to supplement subsistence or because of conflict with the land owner. Thus, while the Ghanzi Basarwa cannot be considered to be sedentary, they appear to have far less true residential mobility than in traditional times.

Although the first years of Ghanzi and European contact were marked by economic interdependence and a relative degree of benevolent paternalism toward the Ghanzi on the part of the Europeans (Guenther 1976: 126), more recently there has been powerful ethnic discrimination against the Ghanzi by both Europeans and various Bantu-speaking groups such as the Tawana. By all measures, such as health status, wealth, and ethnic status and ranking, the Ghanzi always fall at the bottom of interactions between peoples. Many Ghanzi responded to this situation by attempting to emulate European ways, including beliefs in Christian religion and Western medicine, as well as attempts to possess even broken and discarded Western goods as prestige markers (Guenther 1976:128). This is clearly a form of indirect bias. Others, however, responded to this pattern of cultural fragmentation by returning to the "old ways," in effect turning to a revitalization movement (Wallace 1966) to cope with these dramatic changes.

One of the most striking aspects of this revitalization movement is the "remarkable success of the religious specialist, the trance-dancer, who is accorded immense *prestige, glamour, and wealth . . .*" (Guenther 1976: 129; my emphasis). In this system, the trance-dancer is not simply a healer, as in the !Kung example, but instead a newly emergent leader who has come to embody Basarwa culture and belief (Guenther 1976:130). However, more importantly for this argument, trance-dancers are now seen as leading candidates for leadership positions of newly emergent, larger scale social entities that includes a number of Ghanzi settlements and camps (Guenther 1975, 1976:131). In fact, the charismatic, and *transformed* role of the trance-dancer has helped lead to the development of these larger scale organizations. The trance-dancer, by an appeal to the better times of the "old ways," can carefully manipulate sentiment and opinion through his religious and ritual status.

A similar process has been observed with the Nata River Basarwa (Hitchcock 1982). Basarwa groups in this area have had relatively low residential mobility for at least a century and perhaps much longer; but

whatever the causal forces that have led to sedentarization in the region, it is clear that the majority of the Nata River peoples have been fully sedentary since the 1940s (Hitchcock 1982:247). Moreover, there is clear evidence of regional packing as well. Like the Ghanzi, some Nata River peoples work as herders or caretakers for absentee cattle and land owners, whereas others are relatively self-sufficient, relying instead upon a combination of minor cultivation, herding, fishing, and wild plant collection.

Among the effects that sedentarization has had upon the Nata River Basarwa include increased territorial marking, more storage, greater emphasis on within-group sharing, an increase in alliance formation and establishment of balanced reciprocity between non-kin groups, and social differentiation (Hitchcock 1982:250–255). In this context we see the emergence of trance-dancers (called by the Nata River Basarwa the *cho k'ao*) as incipient political leaders. As Hitchcock (1982:253) notes, the *cho k'aos* have become increasingly important and influential in the management of group activities, and due to their position, have been accorded considerable prestige and status. They compete with other individuals with high prestige for emergent leadership positions of larger scale social groups developing in this area. Interestingly, in one example of leadership competition, the primary competition of the *cho k'aos* was a specialized hunt leader (*dzimba*), an individual of high status, and a person with no traditional leadership position but one with considerable experience in dealing with the outside world of the Europeans and Bantu-speaking peoples (Hitchcock 1982:253). While there is no discussion by Hitchcock of a revitalization movement connected to the emergence of the *cho k'ao* as a political leader, the parallels with the Ghanzi Basarwa are obvious.

The Midewiwin: The Transformation of Traditional Ritual and the Emergence of New Political and Social Structures

The development of the Midewiwin “medicine” society among the Algonkian speaking peoples, particularly the Chippewa, in the upper Great Lakes region during the 17th, 18th, and 19th centuries offers a somewhat different trajectory for the extension of ritual hierarchy. Although there is some controversy about the antiquity of the Midewiwin, there is sufficient evidence to assert that it was primarily a postcontact cultural phenomenon that originated as a nativistic movement (Hickerson 1963, 1970; Spindler 1978:715; but see Ritzenthaler 1978 and Landes 1968 for a contrary opinion).

The Midewiwin had its origins in the early contact period (ca. AD 1640–1700) among the Chippewa (Hickerson 1970:53). Although relatively little is known of precontact Chippewa or related Central Algonkian speakers

such as the Ojibwa, Potawatomi, and Menominee, it appears that these groups were residentially mobile on a seasonal basis, and trapping, hunting, fishing, and gathering were the basis for their subsistence economy. Details of political and ceremonial life are sketchy, but leadership was apparently vested in "headmen," or the elder males of descent groups, probably organized as true clans (Hickerson 1970:37-50; Ritzenhaler 1978:753), that ranged in size from 100 to 150 people (Hickerson 1970:13). There were other prestigious positions, however, based primarily upon ability, including shamans and warriors, and as Ritzenhaler (1978:753) notes, the shaman was frequently the most respected and feared individual in the local group. Most Chippewa ritual and religion was focused at the personal or family level, and in some ways, is similar to that of the traditional Basarwa with its emphasis on local group healing and integration. For instance, Spindler (1978:714), in describing the related Menominee, emphasizes the role that *power gaining* had in traditional society. All people as individuals strove to obtain spiritual power through dream revelation, in which a tutelary and protective spirit revealed itself to the individual. One of the glosses for power in Menominee is "that which has energy" (Spindler 1978:714), a conceptualization broadly similar to the !Kung notion of *n/um*, and like the !Kung, those individuals with more power were accorded higher prestige and status. In general, headmen or "chiefs" of the descent groups had greater spiritual power, and it is clear that their tenure as headman was in part dependent upon the quality of that power and its wise use.

The Chippewa were enmeshed in the fur trade after AD 1640, and this led to a number of profound changes in many aspects of society. Hickerson (1970:39) argues that shortly after the initiation of the fur trade, the Salteur (or southwestern Chippewa) displayed a somewhat more complex sociopolitical and ritual organization than that characteristic of other Chippewayan or other Central Algonkian groups, including (1) their role as middlemen in trade between the French and more distant aboriginal groups, (2) warfare between themselves and Iroquoian speakers to the east and Dakotan peoples to the west, (3) frequent ceremonial activity between their trade and alliance partners centered upon a ceremony known as the Feast of the Dead, and (4) acting as hosts of summer visitors and keepers of a refuge for groups splintered by warfare and collapsing territory due to intensive trade competition. By any measure, it is clear that the Chippewa were undergoing a process of sedentarization, the nature of contact between Chippewa, other aboriginal groups, and the French was both intense and persistent, and that the pace of change, as is shown below, was relatively rapid.

Clan headmen were responsible for offering the Feast of the Dead, which was generally done on an annual basis, and which included gift-

giving of trade goods, furs, and other valuable objects to allies and trade partners. The entire group was also feasted. While the result of this feast was the essential penury of the chief and clan who offered it, the chief in particular nevertheless gained great prestige and status (Hickerson 1970: 41). The role of the shaman in this ceremony is unclear, but does not appear to have been of major importance despite his potential great status and prestige. In this situation, then, the locus of ritual power already resided with the clan headman.

As the economic and social competition fostered by the fur trade intensified, the Feast of the Dead as the locus of political and ritual power of the Chippewa headman collapsed. As Hickerson (1970:53) notes, over-exploitation of fur made it impossible for feasting to continue. Not only could furs not be given as gifts, but also they could not be used to obtain the foodstuffs needed for feasting. This situation was exacerbated by the increasingly large aggregations of related and unrelated people brought together by the trade process itself. In traditional times, local groups of Chippewa were dominated by single clans, or groups of closely related peoples. In the postcontact situation, however, due to the pulls of the fur trade and the pushes of conflict and warfare it generated, unrelated, even ethnically distinct groups lived together. Scalar stresses involving leadership disputes and alliance disintegration (intensified by the collapse of its rationale, the Feast of the Dead) grew rapidly and alarmingly, and individual clan headmen were in danger of losing not only prestige and status but also their leadership positions to both internal and external rivals.

That clan headmen were under pressure and willing to change ritual belief is underscored by a passage presented by Hickerson (1970:61) citing Blair (1911:332), who described the travels of one of the early French explorers, Nicolas Perrot. Perrot described a situation in which he was invited to a ritual feast in the lodge of a local clan headman, and in which an altar containing the headman's ritual bundles (his source of personal power as described above) had been erected. Perrot refused to eat until the bundle had been removed, citing his belief in the Christian god who disapproves of displays of "evil spirits":

They (the natives) were surprised at this, and asked if he would eat provided they shut up their Manitous (bundles); this he consented to do. The chief begged Perrot to consecrate him to his Spirit, *whom he would thenceforth acknowledge*; he said he would prefer that Spirit to his own, who had not taught them to make hatchets, kettles, and all else that men need; and that they hoped that by adoring him they would obtain all the knowledge that the French had. (Emphasis mine.)

The Midewiwin emerged from this cauldron of change and uncertainty. As described by Hickerson (1970:52), the Midewiwin was an organized

priesthood of elder males (and infrequently, females) responsible for the maintenance of ritual knowledge, origin myths, and tribal traditions. Mide priests also had a knowledge of ritual killing and curing through the use of white seashells used to "shoot" rays of power. Although the Midewiwin was widespread, it was a closed society and was open only through invitation or inheritance of sacred bundles of ritual objects from deceased members (Spindler 1978:715). Moreover, initiates had to pay large fees over a long initiation period to enter the society (Ritzenhauer 1978:754; Spindler 1978:715). But most importantly, the members of the Midewiwin were composed exclusively of the most prestigious and wealthy members of society. Although not all members of the Midewiwin had civil authority, in the early history of the Midewiwin those who in fact had political power or authority were members of the society. Thus, although there were other routes to political power and prestige outside the Midewiwin, the society nevertheless exerted powerful influence on decision making. Leadership remained based in great part upon consensus and negotiation, and membership in the Mide society helped to smooth the exercise of political power by leaders (Hickerson 1970:57-58).

Although the exact circumstances of the origins of the Midewiwin are unknown, it is clear that it qualifies as a variant of a nativistic movement brought on by pervasive and intense contact under conditions of sedentarization. Importantly, existing ritual, such as the belief in shamanistic practices of ritual killing and curing have been combined with the ritual functions of individual clan headmen. The formation of a society of co-operating headmen and influential people provides a basis for cooperation at the multigroup level. The Mide society achieved this by controlling the sources of traditional knowledge and ritual (such as that already in the hands of elder males) and placing it within the charismatic context controlled in great part by the traditional shaman. It enhanced this power by only allowing wealthy or already prestigious individuals to be invited for membership. While its annual or semiannual curing and initiation ceremonies were secret, a public ceremony, often combined with a feast, was held following the completion of the secret rites to introduce the public to the new members and to exhort both them and the public to maintain the norms of proper behavior (Hickerson 1970:58).

The "Unholy Alliance" of Shamans and Chiefs in Southern California

According to Bean and Smith (1978:538) the Gabrielino were "the wealthiest, most populous, and most powerful ethnic nationality in aboriginal southern California." Although ethnographic records of the Gabrielino (and related Cupeño and Luiseño) are scanty, there is neverthe-

less sufficient information available to prepare a reasonably complete picture of immediately pre- and postcontact times.

In contrast to the Basarwa and Central Algonkian peoples, the Gabrielino were sedentary at contact. Autonomous villages maintained boundaries with personalized symbols or tattoos (Engelhardt 1927), and in addition, all available evidence suggests that the region surrounding the Gabrielino was packed with other ethnic groups of both similar and different linguistic stocks (Bean and Smith 1978:538). Like many California foraging societies, the Gabrielino were socially and politically complex. Social organization consisted of apparently ranked, nonlocalized clans, each with its own "chief" or lineage headman. The headman of the highest ranking clan was seen as the village chief, and in some cases, powerful, highly ranked or prestigious chiefs could forge multivillage alliances and serve as their leaders. Alliance formation and warfare between both Gabrielino and other ethnic groups were frequent. While the stated causes of warfare varied from accusations of sorcery, abduction of women, and failures of reciprocity between chiefs (Bean and Smith 1978:546), it is likely that warfare served as a territory maintenance device under conditions of regional packing.

Hierarchy and inequality were pervasive in Gabrielino society. Terms such as "class" and "class structure" have been used to describe the Gabrielino and other California foragers (Bean 1974; Bean and Smith 1978:543), and while it is unlikely that these were true social classes such as those found in stratified societies, it is also clear that there were substantial differences between people in terms of wealth, prestige, status, and social and religious power. The sources of prestige and wealth varied, however. Membership in chiefly lineage was one basis, as were craft specialization (dominance and control over shell bead or canoe making, for example) and shamanic power. Others gained prestige and some wealth through service to the chief, acting as messengers, runners, and functionaries at rituals and ceremonies. Yet another route to specialization and prestige was the leadership of rabbit drives, antelope hunts, and control of knowledge about major food crops, such as among the neighboring Luiseño (Bean and Shipek 1978:555). At the apex of Gabrielino society were the chiefs, who obtained legitimacy through the possession of sacred bundles, which were viewed by all Gabrielino as embodiments of sacred "power" (Bean and Smith 1978:544). These bundles were passed through the male line from father to son when possible, and great efforts were made to keep bundles of power within family lines, even to their passing to females if no suitable male heirs lived. The duties of the chief were varied and focused primarily upon administrative duties such as collection of foods and goods used for ceremonies to make alliances, adjudication of disputes, negotiation with other chiefs in alliance building,

the announcement of the dates and the scheduling of calendrical and other major rituals, and more generally, to act as the "model Gabrielino" (Bean and Smith 1978:544). They also were expected to pay singers and dancers that participated in major public ritual events (Blackburn 1974:105). However, despite his obvious social prestige and accumulation of wealth, the authority of the chief nevertheless depended on his ability to persuade and lead by example through moral authority (Blackburn 1974:102). Prestige was not directly translated, then, into coercive political, ritual, or social power (although see below).

The shaman, in contrast, was an individual of equivocal position. Where the chief generally was seen as the "model" Gabrielino, the shaman was feared and often viewed with suspicion. The shaman served as a curer, the supernatural guardian of the sacred bundles actually in the possession of the chiefs and thus the protector of a village or set of villages, a holder of supernatural power that could be used for good and evil, and most importantly, as the ally of the chief. The shaman was generally a personal friend of the chief and used his powers in concert with chiefly interests and desires. Frequently, the chief and shaman conspired to threaten, and possibly kill, wealthy individuals who did not, at least in the eyes of the chiefly lineage and other prestigious individuals, contribute their fair share to the expense of calendric, initiatory, and other, major public rituals. Ethnographic descriptions of the connivance of these two powers abound (Bean and Smith 1978; Blackburn 1974). It is this indirect coercive power that Gayton (1930a) in her description of the Yokut, a northern California foraging society, termed the "unholy alliance" between chief and shaman. The shaman, then, like the chief, has both a ritual and political role, but for the shaman, the exercise of the latter is at least publicly masked.

Most of the prestigious and wealthy individuals in Gabrielino society were members of the *toloache* cult or religious system. The best example of this cult or secret society is the *?antap* of the Chumash (Blackburn 1974:104; Bean and Vane 1978:669); unfortunately, the Gabrielino society is poorly known. In many respects, the *?antap* was very similar to the Midewiwin of the Chippewa: membership was tightly controlled and by invitation only; substantial fees were paid by members for their initiation, and consequently, only the most wealthy could be members of the cult; it was the locus of tribal lore and ritual knowledge; and finally, its members, especially the chief and shamans, controlled the performance of public ritual activity. This ritual organization has also been described as a "ruling council" (Bean 1978:679). Public ceremonies were held within an enclosure known as a *yuvar*, located near the chief's residence (Bean and Smith 1978:542). This cult had considerable political and ritual power in traditional Gabrielino society.

Although the Gabrielino were visited by the Spanish as early as 1542, intensive contact with them did not begin until the middle of the 18th century. However, it is probable that the effects of European-introduced diseases were already causing significant mortality in these groups well before 1769. Intensive interaction with the Spanish involved forced population relocation, mass conversions of Gabrielino to Christianity especially *after* the conversion of chiefs or village headmen, military conflict, and eventual cultural collapse. What is remarkable about this process is its rapidity: if we take 1769 as the baseline for sustained contact between Spaniards and Gabrielino, traditional society had been essentially destroyed by 1800. As Bean and Smith (1978:541) put it, "Most Gabrielinos missionized, dead, or fled to other areas. . ." In other words, Gabrielino culture collapsed roughly within the span of a single human generation.

As a response to this pervasive and extremely intense contact, especially through the spread of epidemic diseases well before the Spanish actually established permanent residence in Gabrielino territory, but before the collapse of Gabrielino society, changes in ritual organization and an intensification of ritual power occurred. The mechanism through which these changes became manifest was the Chingichgnish cult. As Bean and Vane (1978:669) have argued, the development of the Chingichgnish cult is best viewed as an example of a nativistic movement, similar to but more complex than those movements that characterized Basarwa and Chippewayan society. According to myth and history, "a shamanlike hero named Chingichngish taught a new body of beliefs that became syncretized with preexisting beliefs and practices" (Bean and Vane 1978:669; emphasis mine). Among other things, these new beliefs included strong emphasis on obedience to authority, autosacrifice, and the sanction of fear and punishment for failure to abide by the new beliefs, which was to be enforced by a newly created class of spirits, called "avengers" (Du Bois 1908; Johnson 1962:41-44; Bean and Vane 1978: 669). Of great interest is that the sanctions are addressed at both common people and those already in authority: "avengers" could punish individuals who made mistakes in ceremonial practice and who inappropriately revealed the secrets of the god.

The members of the Chingichngish cult were the existing holders of political and ritual power: chiefs and the chiefly lineage, shamans, and wealthy individuals, or in other words, the members of the existing *to-loache* cult. This cult, however, became even more secretive, and protective of its power and position. The emphasis on sanction and punishment is obviously directed at the maintenance of control. In one sense, the emphasis on supernatural sanction is a means by which the potentially malevolent power of the shaman, which had formerly worked in secret with the chief, could be extended into a more public, and importantly,

morally sanctioned arena. In effect, the moral authority of the chief is now *explicitly* connected to the power of shaman. The initiation of the members of the *toloache* cult into the Chingichgnish cult can be seen as a means to further bolster the moral basis of control through the display of respected, prestigious individuals.

At the level of ritual practice, the ceremonial structure was also transformed. While it remained the locus of a number of public rituals still important in Gabrielino society, sacred enclosures and altars were built within it, and images of the god Chingichgnish were placed inside. Entry into these enclosures was open only to the members of the cult (Bean and Smith 1978:542, 548). Earlier religious motifs, such as sand paintings of the Sun and Moon, were still found with the structures and, furthermore, remained visible to the public throughout these changes (Bean and Smith 1978:548).

DISCUSSION

Modes of Extension of Ritual Hierarchies

The preceding examples show three distinct modalities of how wielders of ritual power may extend the range of their prestige and social power through the manipulation and redefinition of ritual belief: (1) the use of ritual to extend and enhance *prestige*; (2) a combination of existing moral authority defined by ritual power, prestige, and wealth to define a new social entity; and (3) the attempt to create a coercive force behind existing moral authority based upon prestige and wealth by protecting coercion through changes in ritual. These modalities obviously assume a continuum of social complexity, and it is clear that the more complex modalities are contingent in their operation on the existence of the appropriate social context. Therefore, while it is possible to view these modalities as "stages" in the extension of ritual hierarchy, it is best to avoid such thinking because such categorization leads all too frequently to sterile categorization and the loss of the sense of process that is explicit in this formulation.

In each of the modalities, however, the necessity of prestige as the fundamental basis for the extension of ritual hierarchy is apparent. That prestige is necessary is consistent with the predictions offered by dual inheritance theory on the conditions under which individuals will cooperate with particular ritual forms and will allow wielders of ritual power to extend their hierarchies under circumscription. The first modality, illustrated by the Basarwa, shows how control of ritual can first be translated into increased and enhanced prestige. Trance-dancers, especially *n/um* masters, reflect existing hierarchy, and thus a form of inequality, simply

because they are recognized to have greater control over *n/um* than others. Under circumscription, it is this control over *n/um* that affords the trance-dancer the opportunity to compete for more prestige and to an extension of his control into a totally different arena—political authority—that was not open to him in traditional society. The transformation of existing prestige into a new social field also provides the basis for the trance-dancer to accumulate wealth as well, but unlike other Basarwa who accumulate wealth such as they can through emulation of Bantu-speaking herders (Guenther 1976:131), the trance-dancer can extend his wealth through a *redefinition* of the traditional—his position as a *n/um* master—and thus further enhance his prestige in the revitalization movement that led to his original promotion. As long as the revitalization provides group-level benefits for its believers, such as a sense of solidarity in the face of oppression and discrimination and the promise of better times to come, the trance-dancer can continue to exploit the situation for his own benefit. As with all revitalization movements, however, they eventually are redefined to account for their failure to actually provide those better times, or lose cooperators either to secular alternatives, such as the emulation of European ways, or competing traditional movements.

The role of the headman in traditional Chippewayan society appears to be consistent at least in part with the successful extension of ritual prestige and power into an arena of social power on the part of a figure similar to the Basarwa trance-dancer. The Chippewa chief exercised moral authority through possession of “sacred power” and was able to enhance his prestige through wise use of that moral authority through persuasion and example and sponsorship of the annual Feast of the Dead. The chief, then, sat atop two distinct sequential hierarchies: one based on his position as elder male of a lineage and the other based upon his control of sacred power. Under the impact of the fur trade, however, the traditional basis for moral authority and enhancement of prestige collapsed and, thus, what social power the Chippewa headman possessed was also threatened. Under conditions of circumscription, chiefs roughly equivalent in social power found it to their personal advantage to develop new foundations of belief to maintain their moral authority originally defined by traditional ritual and religious belief. While some chiefs moved toward the French and to adopt Christianity (and the material culture that accompanied it) through indirect bias, others created a different rationale for the enhancement of their prestige through the formation of a wholly new social entity—the Midewiwin. The key to understanding the Midewiwin is to emphasize its *traditional* basis for belief and the ways in which it was *transformed* by Chippewa headmen. Perhaps the most important aspect of this transformation was the coopting of the behaviors and roles of the traditional shaman. The shaman was a healer in Chippewa society,

and was responsible for curing physically sick individuals and saving their lives. The priests in the Midewiwin cult copied this role, but transformed it into the ability to both ritually kill and revive the dead. In so doing, these chiefs "borrowed" both the power and the prestige of the shaman to maintain their own.

A second important innovation of the Midewiwin is that it led to the creation of a socially powerful *group* of individuals that cross-cut kinship lines. While this group did not have direct political control over a village or set of villages, it nevertheless was able to strongly influence the nature of leadership since virtually all potential leadership positions within Chippewa society were also potential members of the Midewiwin through invitation. By declaring itself the seat of ritual knowledge and tribal lore, the Midewiwin created a new basis of belief beyond that of the individual headman, but one that was similarly grounded in traditional religious motifs. The benefits for existing chiefs are obvious: by membership in the Midewiwin, they can continue to hold their moral authority over their own lineage while simultaneously gaining a new source of moral authority over at a panlineage level. In other words, they can extend their existing social power into partial control over a third sequential hierarchy—leadership at the multigroup level. For nonheadmen invited to join the Midewiwin, the benefits are equally obvious: they are able to participate in multigroup leadership when before they only had influence through prestige at the lineage or village level. Finally, cooperators could expect a continuation of the group-level benefits of social solidarity as well as a mechanism that worked to eliminate the significant scalar stresses that threatened to disrupt traditional society. While none of these changes led directly to the monopolization of control over political or coercive power, it is clear that there was a significant increase in the number of hierarchies and degree of inequality present in Chippewa society.

The third modality shows at least one possible path to the emergence of coercive power. Gabrielino society was considerably more complex than the Chippewa, including the influential *toloache* cult (similar to the Midewiwin in its influence on the political field of Gabrielino society), various practical and craft specialties, and shamans, as well as the role of chief. There was a wide range, then, of sequential hierarchies. While the chief controlled a number of these, his ability to rule was no different from that of the Chippewa headman—it was based solely upon persuasion and moral authority, which in turn was based upon his possession of bundles of sacred power and his control over the scheduling of major ritual events, such as alliance feasting. Beyond his ability to persuade wealthy individuals to pay the costs of these feasts and to participate in them or to indirectly coerce them to cooperate through an alliance with the shaman, none of the sequential hierarchies he controlled resulted in his true coer-

cive monopolization over strategic resources of economic value. With the development of the Chingichgnish cult and its ideology of punishment, fear, and sanction, however, the chief gained more direct access to the coercive power of the shaman, and thus provided himself with the basis for compelling wealthy individuals to contribute ever larger amounts to the celebration of important ritual events. The cult essentially redefined the basis of the moral authority of the Gabrielino chief by *publicly* permitting his use of the shaman to punish those who failed to live up to the new moral code. Once again, the advantages to the leaders of existing ritual and secular hierarchies are obvious—maintenance of prestige and status, with the significant addition of coercive power to the chief. The benefits to cooperators, however, are less obvious. The tone of the Chingichgnish cult is one of domination and oppression, and it is interesting to speculate whether or not the cult would have survived had Gabrielino society not collapsed. Perhaps the large number of Gabrielino that fled to other, surrounding ethnic groups did so to escape not only the Spanish but also their own political and ritual leaders. What is interesting to note, however, is that flight in this context, either from the Spanish or the Gabrielino, was undertaken under conditions of very high cost—the disruption and collapse of traditional society.

Each of these modalities, through the manipulation of ritual belief, created new sources of hierarchy and inequality through the transformation of existing belief structures. In one sense through these transformations, wielders of ritual power actually created new social structures. For the Basarwa, the structure created was the transformation of a wholly traditional form of prestige into a new social field; for the Chippewa, the transformation of ritual first created a new group—the Midewiwin medicine society—that gave its members greater power over a larger number of individuals and thus more prestige; and finally, for the Gabrielino, it led to the development of a public basis for coercive political and moral authority.

Ritual, Lineage, Hierarchy, and Inequality

Ritual, of course, is not the only pathway to hierarchy and its extension. Of great importance is control of demographically based hierarchies, or lineages. While the importance of kinship and lineage in small-scale societies has long been recognized by anthropologists (Fried 1967:120–128), it is worth briefly exploring the relationship between ritual and lineage, since it is clear that in both Chippewa and Gabrielino society control of a ritual hierarchy within a descent group is a major pathway to an extension of political and social power.

Lineages, of course, tend to concentration hierarchy and inequality in

the hands of elder males. In practice, this inequality frequently translates into individuals with more wives (and thus a greater possibility of creating a larger kin group), enhanced access to a greater sphere of the means of production through inheritance of lands or herds, and, as we have seen above, the concentration of various kinds of sacred power into the hands of a few individuals (Lee 1990:239–240; see also Godelier 1982:16–18).

If large families are in fact a measure of reproductive success, then as Chagnon (1979a:378) has put it, “differential reproduction necessitates differences, if not in access to strategic resources, at least in consumption of them.” Furthermore, the individual with 10 children has two choices: “Either he alone works ten times as hard as his peers or he controls the productive efforts of others around him who assist him” (Chagnon 1979a: 378). In most small-scale societies, assistance in producing more comes not from coercion but through the persuasion of kin to cooperate (Berte 1988). If in fact kinsmen can be made to cooperate and work together to some mutually beneficial end, these lineage structures can have considerable social and political power. Dual inheritance theory, as we have seen above, demonstrates that there is a clear advantage in reciprocal altruism and cooperation among kinsmen, and it is obvious that those groups of kinsmen that cooperate more effectively than others may be in a better competitive position against other groups of similar size that do not. Furthermore, lineage or kin cooperation has long been thought to be highly adaptive under conditions of chronic warfare, especially under conditions of group selection (Service 1962; Chagnon 1988).

Fried (1967:141) has observed the close relationship between the practice of ritual leadership and the role of the lineage headmen in his definition of ranked society:

. . . chiefly figures bring little in the way of power to their priestly roles. Instead, it seems more accurate to believe that such small power as they control is likely to stem from their ritual status, although even here there is minimum possibility of transfer of power from one situation to another.

While Fried is dismissive of the power of the lineage headman, what is important here is not whether or not the headman actually has coercive power (he does not), but instead the basis of that persuasive power—ritual. Furthermore, it appears that he has minimized the possibility of the extension of ritual power into other social fields. As we have seen above, while control of ritual does not lead directly to the origins of coercion, it does provide the basis for the way in which coercion can ultimately emerge. Ritual, then, serves simultaneously as the basis of the moral authority of the headman and as the means by which he can potentially extend that power to other social fields.

Thinking about ritual in this manner allows us to briefly speculate on

possible forms of the other two conditions for the emergence of cultural complexity postulated by Price and Brown (1985): resource abundance and large populations. The organization of large populations into lineage or descent group form appears to be a necessary condition for the eventual institutionalization of inequality in egalitarian societies. In both the Chippewa and Gabrielino examples, headmen and chiefs, *already* at the top of a sequential hierarchy defined in kinship or lineage terms, were able to extend their social power into new and wider social fields through the manipulation of ritual, which serves as the moral and supernatural justification for these changes. If large families or lineages can be adaptive, as I have argued above, they must be fed. While kinship will work to mobilize cooperation within families as long as they remain relatively small, as they become larger, access to the means of production of more distantly related or unrelated families becomes necessary as circumscription, either social or ecological, intensifies. As we have seen in the Gabrielino example, their chiefs could only exhort the wealthy to contribute more to the cycle of feasts. With the emergence of the Chingichgnish cult, however, a ritually sanctioned justification for coercion was established, and if Gabrielino society had not collapsed under the impact of contact with the Spanish, it may have served as the basis for the growth in wealth of the chief and his lineage, as well as other members of the cult. In other words, a basis for the control over the means of production has been established.

IMPLICATIONS AND CONCLUSIONS

Given the findings of this paper, there are two distinct levels of implications for the conduct of archaeological research and the investigation of the role of ritual in the emergence and elaboration of cultural complexity: theory and models of context and conditions.

Theory

Dual inheritance thinking offers a new way to situate ritual in processes of the emergence of cultural complexity, but importantly, one that remains materialist in perspective, and thus, ultimately falsifiable. Granted, developing empirical tests for any predictions made by these evolutionary theories solely with archaeological data is likely to be a near-impossible task. Anthropologists working within this paradigm have experienced significant difficulties in testing their propositions on living human populations. It has proven very difficult to frame unambiguous tests of whether or not cultural practices enhance individual reproductive success simply because of the complexity of human culture. Furthermore, charges of

so-called ad hoc hypothesizing have been frequently leveled at these approaches (Alexander 1988:338), and this has tended to raise the level of skepticism about what can be learned about human culture with evolutionary thinking.

This situation is obviously made more difficult since we are attempting to develop more comprehensive thinking about ritual—a set of behaviors characterized less by place or object than by acting, performance, and liminality (Turner 1969, 1986). Additionally, the obvious lability and range of meanings of symbols across human cultures makes the interpretation of any individual empirical situation in which ritual is important a chancy business at best. However, if careful analogies are chosen and constraints on inference are observed (Wylie 1989), it nevertheless remains possible to develop reasonable empirical expectations about ritual activity.

Models of Context and Conditions

The model described above has made a number of potentially valuable predictions about the role of ritual in the emergence of cultural complexity in small-scale societies. At the most basic level, the model incorporates a fundamental hypothesis of modern evolutionary thinking—that individuals will seek to increase their inclusive fitness by increasing their wealth, prestige, and status. A necessary assumption of the model is that there are natural sources of hierarchy, and thus inequality, in all human societies. Individuals, then, will “exploit” these differences whenever possible. In turn, this exploitation will be resisted by other individuals either through social mechanisms such as leveling devices or, to the degree that it is possible, mobility and social fissioning. As long as the social or actual costs of fissioning are perceived to be lower than the costs of the acceptance of greater wealth and status under the control by a small number of individuals, control of one sequential hierarchy cannot be extended to the control of another.

Under conditions of circumscription and other forms of intensive and persistent cultural interaction, however, the costs of mobility and fissioning as ways to resist the extension of hierarchy increase, and thus individuals may be more likely to accept an extension of an existing hierarchy into another social field. Control of a ritual hierarchy has been seen to be one of the most powerful and, possibly, one of the first ways in which individuals can seek to extend their prestige and obtain greater wealth and status. Because ritual is simultaneously the locus of altruistic, group feeling and the primary mechanism through which existing social relationships are mediated, wielders of ritual power are in a position to manipulate and shape these categories and thus obtain control of a different sequential hierarchy. Other individuals not members of the ritual hierar-

chy will tolerate these changes and thus cooperate in a transformed ritual system as long as the costs of cooperation (and the extension of hierarchy) are lower than the options of not so doing. This model, then, predicts that wielders of existing forms of ritual power will be the societal "category" most likely to extend their control of hierarchy into new social fields, and they will do so before those who control other forms of sequential hierarchies. Wielders of ritual power, then, have a competitive advantage in this process.

The form of this extension, however, depends in part on the existing number of sequential hierarchies in the foraging group. Small groups, similar to the Basarwa discussed above, have relatively few existing sequential hierarchies, but importantly, all known foraging groups have some sort of shamanic figure or ritual practitioner. In this sense, then, the ritual specialist is a "natural" candidate for the extension of control of this hierarchy into another. By being in control of ritual power, the shamanic figure has a better basis for the enhancement of his prestige and status. In more complex foraging societies, however, there are more sequential hierarchies, and therefore, more potential competitors. Here, prestige, status, and wealth are defined not only by ritual, but also by occupational speciality, such as in the case of the Gabrielino, but more importantly, by control of lineage formations. What is important about these more complex groups is that existing ritual and sacred power has been concentrated into two distinct social formations: the headmen of lineages and sodalities of high prestige and wealthy individuals. However, the basis for these transformations remains the same: the control of a ritual hierarchy and sacred power is used to justify the extension of hierarchy into other social fields.

This model can be used to clarify aspects of Hayden's (1990) model of the emergence of food production and his similar model of the origins of complex society in Mesoamerica (Hayden and Gargett 1990). He argues that in rich environments, food production is not a response to population pressure or resource stress but instead the "competitive and feasting aspects of economic rivalry among these complex hunter-gatherers" (Hayden 1990:32). Economic competition and status rivalry between individuals called "accumulators" occurs in rich environments containing r-selected species that can be effectively harvested and stored. Hayden (1990:37-38) offers two ethnographic instances of accumulators: Big Man societies in Melanesia and the complex foraging societies of northwestern North America in the historic period. While the model appears to have an impressive range of explanatory power, it does not, as he admits, explain "the ultimate and immediate emergence of socioeconomic inequalities" in these societies (Hayden 1990:33). That is, while his argument works well for already complex foragers, it does not effectively explain how the

basis for this observed status differentiation or social inequality emerged. In other words, what combination of cultural and natural conditions led to the emergence of accumulators?

The model proposed in this paper offers an explanation for their emergence. Historical headmen of lineage groups on the Northwest coast had roles, such as holding of feasts and the sponsorship of important ceremonials, and importantly, bases for authority which included sacred power, similar to the Gabrielino chiefs (de Laguna 1983). It is probable that these Northwest coast chiefs obtained and extended their power in much the same way. Accumulators are in their prestigious situation, and thus engage in economic competition and feasting because at some point in the historical trajectory of cultural development in the region, wielders of ritual power were able to extend their existing hierarchies to control of lineage structures and other descent groups. In theory, this assertion could be tested. Similar tests could be applied to the emergence of Melanesian big man societies. The key to understanding accumulators, big men, and powerful lineage headmen is the ritual basis of their moral authority. A prediction generated from this observation is that only ritually based hierarchies can successfully be extended into other political arenas, and ultimately, into actual coercive control of economic surplus production in small-scale societies. This is consistent with the repeated observation that the most extreme and powerful warriors—strong men, killers, or other war leaders in small-scale societies—while respected, widely known, and generally feared, almost always fail to translate their particular expression of prestige and status into wealth, more wives (and thus children), and more land (Godelier 1982:18–21, 30–31).

It is important to stress, however, that the extension of ritual hierarchy need not always be successful, and indeed, as I have shown above, there are circumstances under which these extended ritual hierarchies have failed to reproduce themselves. Indeed, the Gabrielino are testimony to this failure. This may especially be the case when indirect bias is the dominant mode of learning, and that the indicator traits chosen for emulation are not adaptive. In contrast, if the hypothesis that a ritual hierarchy was extended in prehistoric times on the Northwest Coast is sustained, then it is clear that the transformation “worked,” at least until sustained contact with Europeans and Americans into the 19th century.

While I have argued that the model presented in this paper is falsifiable, there should be no illusions that developing critical tests of it will be a simple matter. Although archaeologists have made major progress for identifying reliable signatures of circumscription (i.e., sedentarization and its many archaeological correlates; see Rafferty 1985), we have made considerably less progress in identifying similar, unambiguous correlates for forms of hierarchy and inequality, as well as ritual and ritual practice

in most archaeological situations, especially in the small-scale societies that have been the focus of this paper. While careful analyses of mortuary features and remains have been the mainstays of what has been accomplished, it is clear that we will have to develop other approaches to the identification of hierarchy, inequality, and ritual practice. We will also need to create new ways to identify the emergence of descent groups or lineages. Ultimately, this should involve the Hodder's contextual (but not necessarily textual) approach to the archaeological record since it is focused specifically upon the definition of changing meaning of material culture within a historical trajectory.

Despite these empirical problems, however, this model has developed a materialist approach to ritual and its place in the emergence of cultural complexity. In so doing, it is consistent with the call for identifying causality in archaeological theories (Hayden 1990:62), and it places that causality into a context of decision making and intentionality, rather than assuming that ritual is a purely emergent response to cultural complexity and other forms of hierarchy and inequality and the attendant social problems they created. In this view, ritual may intensify, rather than ameliorate, these problems. Regardless of specific examples, however, this model appears to situate ritual as a dynamic force in this process.

REFERENCES CITED

- Alexander, R.
1988 Evolutionary approaches to human behavior: What does the future hold? In *Human reproductive behavior: A Darwinian perspective*, edited by L. Betzig, M. Borgerhoff Mulder, and P. Turke, pp. 317–341. Cambridge University Press, Cambridge.
- Ames, K.
1985 Hierarchies, stress, and logistic strategies among hunter-gatherers in northwest North America. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. A. Brown, pp. 155–180. Academic Press, Orlando.
- Bean, Lowell
1974 Social organization in native California. In *Antap: California Indian political and social organization*, edited by L. Bean and T. King, pp. 11–34. Ballena Press, Ramona, CA.
1978 Social organization. In *Handbook of North American Indians, Vol. 8, California*, edited by R. Heizer, pp. 673–682. Smithsonian Institution, Washington, DC.
- Bean, Lowell, and Florence Shipek
1978 Luiseño. In *Handbook of North American Indians, Vol. 8, California*, edited by R. Heizer, pp. 550–563. Smithsonian Institution, Washington, DC.
- Bean, Lowell, and Charles R. Smith
1978 Gabrielino. In *Handbook of North American Indians, Vol. 8, California*, edited by R. Heizer, pp. 538–549. Smithsonian Institution, Washington, DC.

- Bean, Lowell, and Sylvia Vane
- 1978 Cults and their transformation. In *Handbook of North American Indians, Vol. 8, California*, edited by R. Heizer, pp. 662–672. Smithsonian Institution, Washington, DC.
- Berte, N.
- 1988 K'ekchi' horticultural labor exchange: Productive and reproductive implications. In *Human reproductive behavior: A Darwinian perspective*, edited by L. Betzig, M. Borgerhoff Mulder, and P. Turke, pp. 83–96. Cambridge University Press, Cambridge.
- Bettinger, R.
- 1991 *Hunter-gatherers: Archaeological and evolutionary theory*. Plenum, New York.
- Betzig, L.
- 1986 *Despotism and differential reproduction: A Darwinian view of history*. Aldine, Hawthorne, NY.
- 1988 Redistribution: Equity or exploitation. In *Human reproductive behavior: A Darwinian perspective*, edited by L. Betzig, M. Borgerhoff Mulder, and P. Turke, pp. 49–63. Cambridge University Press, Cambridge.
- Blackburn, T.
- 1974 Ceremonial integration and social interaction in aboriginal California. In *Antap: California Indian political and social organization*, edited by Lowell Bean and T. King, pp. 93–110. Ballena Press, Ramona, CA
- Blair, E.
- 1911 *The Indian tribes of the upper Mississippi Valley and the region of the Great Lakes as described by Nicolas Perrot, French Commandant in the Northwest; Bacqueville de la Potherie, French Royal Commissioner to Canada; Morrell Marston, American Army officer, and Thomas Forsyth, United States Agent at Fort Armstrong*. Arthur H. Clark, Cleveland.
- Bloch, M. (editor)
- 1975 *Political language and oratory in traditional society*. Academic Press, London.
- 1977 The past and the present in the present. *Man* 12:278–292.
- Boyd, R., and P. Richerson
- 1985 *Culture and the evolutionary process*. University of Chicago Press, Chicago.
- Brown, James A., and T. Douglas Price
- 1985 Complex hunter-gatherers: Retrospect and prospect. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. Brown, pp. 435–442. Academic Press, Orlando.
- Burns, T., and Charles D. Laughlin, Jr.
- 1979 Ritual and social power. In *The spectrum of ritual: A biogenetic structural approach*, edited by E. d'Aquili, C. Laughlin, Jr., and J. McManus, pp. 249–279. Columbia University Press, New York.
- Carneiro, Robert L.
- 1970 A theory of the origin of the state. *Science* 169:733–738.
- 1988 The circumscription theory: Challenge and response. *American Behavioral Scientist* 31:497–511.
- Chagnon, Napoleon
- 1979a Is reproductive success equal in egalitarian societies? In *Evolutionary biology and human social organization: An anthropological perspective*, edited by N. Chagnon and W. Irons. Duxbury Press, North Scituate, MA.
- 1979b Mate competition, favoring close kin, and village fissioning among the Yanomano Indians. In *Evolutionary biology and human social organization: An*

- anthropological perspective*, edited by N. Chagnon and W. Irons. Duxbury Press, North Scituate, MA.
- 1988 Life histories, blood revenge, and warfare in a tribal population. *Science* 239:985–992.
- Cohen, M.
- 1985 Prehistoric hunter-gatherers: The meaning of social complexity. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. A. Brown, pp. 99–119. Academic Press, Orlando.
- Conkey, M.
- 1985 Ritual communication, social elaboration, and variable trajectories of Paleolithic material culture. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. A. Brown, pp. 299–324. Academic Press, Orlando.
- de Laguna, F.
- 1983 Aboriginal Tlingit sociopolitical organization. In *The development of political organization in native North America*, edited by E. Tooker, pp. 71–85. American Ethnological Society, Washington, DC.
- Douglas, M.
- 1966 *Purity and danger*. Routledge and Kegan Paul, London.
- 1973 *Natural Symbols*. Random House, New York.
- Du Bois, Constance
- 1908 The religion of the Luiseño and Diegueño Indians of southern California. *University of California Publications in American Archaeology and Ethnology* 8(3):69–186.
- Du Bois, Cora
- 1939 The 1870 Ghost Dance. *University of California Anthropological Records* 3(1): 1–151.
- Dunnell, R.
- 1980 Evolutionary theory and archaeology. *Advances in archaeological method and theory* 3:38–100.
- Englehardt, Z.
- 1927 *San Gabriel Mission and the beginnings of Los Angeles*. Mission San Gabriel, San Gabriel, CA.
- Flanagan, J.
- 1989 Hierarchy in simple “egalitarian” societies. *Annual Review of Anthropology* 18: 245–266.
- Fried, M.
- 1967 *The evolution of political society*. Random House, New York.
- Gayton, A.
- 1930a Yokuts-Mono chiefs and shamans. *University of California Publications in American Archaeology and Ethnology* 24(8):361–420.
- 1930b The Ghost Dance of 1870 in south-central California. *University of California Publications in American Archaeology and Ethnology* 28(3):57–82.
- Giddens, A.
- 1984 *The constitution of society: Outline of a theory of structuration*. Polity Press, Cambridge.
- Godelier, M.
- 1982 Social hierarchies among the Baruya of New Guinea. In *Inequality in New Guinea highlands society*, edited by A. Strathern, pp. 3–34. Cambridge University Press, Cambridge.

- Guenther, M.
- 1975 The trance dancer as an agent of social change among the Farm Bushmen of the Ghanzi District. *Botswana Notes and Records* 7:161–166.
- 1976 From hunters to squatters: Social and cultural change among the Farm San of Ghanzi, Botswana. In *Kalahari hunters and gatherers*, edited by R. Lee and I. DeVore, pp. 120–133. Harvard University Press, Cambridge.
- Hamilton, W. D.
- 1964 The genetical evolution of social behavior. *Journal of Theoretical Biology* 7:1–52.
- Hayden, B.
- 1990 Nimrods, piscators, pluckers, and planters: The emergence of food production. *Journal of Anthropological Archaeology* 9:31–69.
- Hayden, B., and R. Gargett
- 1990 Big man, big heart? A Mesoamerican view of the emergence of complex society. *Ancient Mesoamerica* 1:3–20.
- Hickerson, H.
- 1963 The sociohistorical significance of two Chippewa ceremonials. *American Anthropologist* 65:67–85.
- 1970 *The Chippewa and their neighbors: A study in ethnohistory*. Holt, Rinehart, and Winston, New York.
- Hitchcock, R.
- 1982 Patterns of sedentism among the Basarwa of eastern Botswana. In *Politics and history in band societies*, edited by E. Leacock and R. Lee, pp. 223–267. Cambridge University Press, Cambridge.
- Hodder, I.
- 1988 Material culture texts and social change: A theoretical discussion and some archaeological examples. *Proceedings of the Prehistoric Society* 54:67–75.
- Irons, W.
- 1979 Cultural and biological success. In *Evolutionary biology and human social behavior: An anthropological perspective*, edited by N. Chagnon and W. Irons. Duxbury Press, North Scituate, MA.
- Johnson, B.
- 1962 *California's Gabrielino Indians*. Southwest Museum, Los Angeles.
- Johnson, G.
- 1982 Organizational structure and scalar stress. In *Theory and explanation in archaeology*, edited by C. Renfrew, M. Rowlands, and B. Seagraves, pp. 389–421. Academic Press, New York.
- Katz, R.
- 1976 Education for transcendence: !Kia healing and the Kalahari !Kung. In *Kalahari Hunter-Gatherers*, edited by R. Lee and I. DeVore, pp. 281–301. Harvard University Press, Cambridge, MA.
- Keeley, L.
- 1988 Hunter-gatherer economic complexity and “population pressure”: A cross-cultural analysis. *Journal of Anthropological Archaeology* 7:343–411.
- Landes, R.
- 1968 *Ojibwa religion and the Midewiwin*. University of Wisconsin Press, Madison.
- Laughlin, C. D., Jr., and E. d'Aquili
- 1979 Ritual and stress. In *The spectrum of ritual: A biogenetic structural analysis*, edited by E. d'Aquili, C. D. Laughlin, Jr., and J. McManus, pp. 280–317. Columbia University Press, New York.

- Lee, R.
- 1990 Primitive communism and the origin of social inequality. In *The evolution of political systems*, edited by S. Upham, pp. 225–246. Cambridge University Press, Cambridge.
- Levy, R.
- 1978 Eastern Miwok. In *Handbook of North American Indians, Vol. 8, California*, edited by T. Heizer, pp. 398–413. Smithsonian Institution Press, Washington, DC.
- Lourandos, H.
- 1985 Intensification and Australian prehistory. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. A. Brown, pp. 385–423. Academic Press, Orlando.
- Minc, L.
- 1986 Scarcity and survival: The role of oral tradition in mediating subsistence crises. *Journal of Anthropological Archaeology* 5:39–113.
- Mooney, J.
- 1896 The Ghost Dance religion and the Sioux outbreak of 1890. *14th Annual Report of the Bureau of American Ethnology for the Years 1892–1893*. Part 2. Washington, DC.
- Paynter, R.
- 1989 The archaeology of equality and inequality. *Annual Review of Anthropology* 18:369–399.
- Price, T. D., and J. A. Brown
- 1985 Aspects of hunter-gatherer complexity. In *Prehistoric hunter-gatherers: The emergence of cultural complexity*, edited by T. D. Price and J. A. Brown, pp. 3–20. Academic Press, Orlando.
- Rafferty, J.
- 1985 The archaeological record on sedentariness: Recognition, development, and implications. *Advances in Archaeological Method and Theory* 8:113–156.
- Rappaport, R.
- 1968 *Pigs for the ancestors*. Yale University Press, New Haven, CT.
- 1979 *Ecology, meaning, and religion*. North Atlantic Books, Richmond, CA.
- Reynolds, R.
- 1984 A computational model of hierarchical decision systems. *Journal of Anthropological Archaeology* 3:159–189.
- Ritzenthaler, R.
- 1978 Southwestern Chippewa. In *Handbook of North American Indians, Vol. 15, Northeast*, edited by B. Trigger, pp. 743–759. Smithsonian Institution, Washington, DC.
- Service, E.
- 1962 *Primitive social organization: An evolutionary perspective*. Random House, New York.
- Spindler, L.
- 1978 Menominee. In *Handbook of North American Indians, Vol. 15, Northeast*, edited by B. Trigger, pp. 708–724. Smithsonian Institution, Washington, DC.
- Trivers, R. L.
- 1971 The evolution of reciprocal altruism. *Quarterly Review of Biology* 46:35–57.
- Turner, V.
- 1969 *The ritual process: Structure and anti-structure*. Cornell University Press, Ithaca, NY.
- 1986 *The anthropology of performance*. PAI Publications: New York.

Vining, D.

- 1986 Social versus reproductive success: The central theoretical problem of human sociobiology. *Behavioral and Brain Sciences* 9:167–187.

Wagner, R.

- 1984 Ritual as communication: Order, meaning, and secrecy in Melanesian initiation rites. *Annual Review of Anthropology* 13:143–155.

Wallace, Anthony F. C.

- 1966 *Religion: An anthropological view*. Random House, New York.

Wylie, A.

- 1989 Matters of fact and matters of interest. In *Archaeological approaches to cultural identity*, edited by S. Shennan, pp. 94–109. Unwin Hyman, London.